

IN THE CLAIMS:

Amendments to the Claims:

Please amend claims 1, 3-5, 7, 9, 11-13, 15 and 16 as shown below.

Listing of Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended) A method of inspecting a pattern, comprising the steps of:

sensing images of corresponding areas of two patterns, which are originally formed so as to have an identical shape on a substrate, to obtain a reference image and an inspection image;

with respect to the reference image and the inspection image obtained by sensing images of the corresponding areas, performing correction of a difference of in brightness for ~~corresponding~~ effecting correspondence between each of first unit ~~area~~ areas and a difference of in brightness for each of second unit ~~area~~ areas which are larger than the first unit ~~area~~ areas; and

detecting a defect using the reference image and the inspection image for which the correction of brightness for each first unit area and the correction of brightness for each second unit area are have been performed.

2. (original) A method of inspecting a pattern according to claim 1, wherein a difference of brightness which occurs in a belt shape in the

reference image and the inspection image according to the correction of brightness for each first unit area is corrected, and a difference of brightness which occurs at random in the reference image and the inspection image according to the correction of brightness for each second unit area is corrected.

3. (currently amended) A method of inspecting a pattern, comprising the steps of:

sensing images of corresponding areas of two patterns, which are formed so as to originally have an identical shape on a substrate, to obtain a reference image and an inspection image;

correcting a difference of brightness between the reference image and the inspection image obtained by sensing images of the areas in multiple stages by different area-unit ~~units~~ units;

comparing the images for which brightness is corrected in multiple stages to ~~find~~ obtain a difference image between both ~~the~~ images; and

comparing the difference image with a threshold value corresponding to the areas of the images to detect a defect.

4. (currently amended) A method of inspecting a pattern according to claim 3,

wherein the correction of brightness in multiple stages is performed by changing a ~~the~~ size of a unit area for which brightness correction is performed on the images.

5. (currently amended) A method of inspecting a pattern according to claim 3,

wherein a positional deviation between the reference image and the inspection image obtained by sensing images of the areas is corrected, and a difference of brightness between corresponding parts of the reference image and the inspection image, for which positional deviation is corrected, is corrected in multiple stages by different area units.

6. (original) A method of inspecting a pattern according to claim 3, wherein the threshold value according to the areas of the images is a threshold value corresponding to a difference of partial brightness of the images.

7. (currently amended) A method of inspecting a pattern, comprising the steps of:

sequentially sensing images of corresponding areas of two patterns, which are originally formed so as to have an identical shape on a substrate, using an image sensor to sequentially capture images of the corresponding areas; and

performing correction of positional deviation, correction of brightness, and detection of a defect by parallel processing with respect to the images subsequently captured by sensing images of the areas with the image sensor,

wherein the images are processed at a processing speed substantially equal to an image capturing speed of the image sensor.

8. (original) A method of inspecting a pattern according to claim 7, wherein the speed for processing the images is in the range of 1.6 Gpps to 6.4 Gpps.

9. (currently amended) An apparatus for inspecting a pattern, comprising:
image sensing means which senses images of corresponding areas of two patterns, which are originally formed so as to have an identical shape on a substrate; and

image processing means which uses ~~the~~a reference image and ~~the~~an inspection image, which are obtained by sensing images of the areas ~~with~~using the image sensing means, to detect a defect,

wherein the image processing means comprises:

a brightness correction unit which, with respect to the reference image and the inspection image obtained by sensing images of the corresponding areas, performs correction of a difference ~~of~~in brightness for ~~corresponding~~effecting correspondence between each of first unit area~~areas~~ and a difference ~~of~~in brightness for each of second unit area~~areas which are~~ larger than the first unit-area areas; and

a defect detection unit which detects a defect using the reference image and the inspection image for which the correction of brightness for each first unit area and the correction of brightness for each second unit area ~~are~~have been performed by the brightness correction unit.

10. (original) An apparatus for inspecting a pattern according to claim 9, wherein the brightness correction unit corrects a difference of brightness which occurs in a belt shape in the reference image and the inspection image according to the correction of brightness for each first unit area, and a difference of brightness which occurs at random in the reference image and the inspection image according to the correction of brightness for each second unit area.

11. (currently amended) An apparatus for inspecting a pattern, comprising:
image sensing means which senses images of corresponding areas of two patterns, which are originally formed so as to have an identical shape on a substrate; and

defect detecting means which detects a defect using the reference image and the inspection image obtained by sensing images of the corresponding areas with the image ~~sensing~~ sensing means;

wherein the defect detecting means comprises:

a brightness correction unit which corrects a difference of brightness between the reference image and the inspection image, which are obtained by sensing images of the areas with the image sensing means, in multiple stages by different area units;

a difference image generation unit which compares the images for which brightness is corrected in multiple stages by the brightness correction unit to ~~find~~ obtain a difference image between both the images; and

a defect detection unit which compares the difference image ~~found~~obtained by the difference image generation unit with a threshold value corresponding to the areas of the images to detect a defect.

12. (currently amended) An apparatus for inspecting a pattern according to claim 11,

wherein the brightness correction unit performs the correction of brightness in multiple stages by changing ~~a~~the size of a unit area for which brightness correction is performed on the images.

13. (currently amended) An apparatus for inspecting a pattern according to claim 11,

~~wherein the inspection means further comprises~~ comprising a positional deviation correction unit which corrects a positional deviation between the reference image and the inspection image obtained by sensing images of the areas with the image sensing means, and corrects a difference of brightness between corresponding parts of the reference image and the inspection image, for which positional deviation is corrected by the positional deviation correction unit, in multiple stages by different area units in the brightness correction unit.

14. (original) An apparatus for inspecting a pattern according to claim 11, wherein the defect detection unit uses a threshold value corresponding to a difference of partial brightness of the images as the threshold value according to the

areas of the images.

15. (currently amended) An apparatus for inspecting a pattern, comprising:
image sensing means which sequentially senses images of corresponding areas of two patterns, which are originally formed so as to have an identical shape on a substrate, using an image sensor to sequentially capture images of the corresponding areas; and

defect detecting means which processes the images sequentially captured by the image sensing means to detect a defect,

wherein the defect detecting means comprises plural processing units for processing the images, which are sequentially captured by sensing images of the corresponding areas with the image sensor of the image sensing means, and executes correction of positional deviation, correction of brightness, and detection of a defect of the images, which are sequentially captured, in parallel in plural processing units to thereby process the images at a processing speed substantially equal to an image capturing speed of the image sensor of the image sensing means.

16. (currently amended) An apparatus for inspecting a pattern according to claim 15,

wherein the defect detecting means processes the images at ~~the~~a speed in the range of 1.6 Gpps to 6.4 Gpps.

17. (original) An apparatus for inspecting a pattern according to claim 15,
wherein the image sensor of the image sensing means is a TDI image sensor
of a parallel output type.